



INVESTIGATOR'S ANNUAL REPORT

United States Department of the Interior
National Park Service

All or some of the information you provide may become available to the public.

OMB # (1024-0236)
Exp. Date (11/30/2010)
Form No. (10-226)

Reporting Year: 2010	Park: Shenandoah NP	Select the type of permit this report addresses: Scientific Study	
Name of principal investigator or responsible official: Allen Hurlbert		Office Phone: 919-843-9930	
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Additional investigators or key field assistants (first name, last name, office phone, office email) Name: Katie Becraft Phone: 919-962-8795 Email: kbecraft@email.unc.edu			
Project Title (maximum 300 characters): Understanding the Importance of Vegetation Structure and Resource Availability for Southern Appalachian Bird Communities			
Park-assigned Study or Activity #: SHEN-00383	Park-assigned Permit #: SHEN-2010-SCI-0017	Permit Start Date: Jun 22, 2010	Permit Expiration Date: Aug 31, 2011
Scientific Study Starting Date: May 15, 2010		Estimated Scientific Study Ending Date: Aug 31, 2012	
For either a Scientific Study or a Science Education Activity, the status is: Continuing		For a Scientific Study that is completed, please check each of the following that applies: <input type="checkbox"/> A final report has been provided to the park or will be provided to the park within the next two years <input type="checkbox"/> Copies of field notes, data files, photos, or other study records, as agreed, have been provided to the park <input type="checkbox"/> All collected and retained specimens have been cataloged into the NPS catalog system and NPS has processed loan agreements as needed	
Activity Type: Research			
Subject/Discipline: Birds / Ornithology			

Purpose of Scientific Study or Science Education Activity during the reporting year (maximum 4000 characters):

We propose to census avian communities using point counts and to collect data on arthropod abundance and vegetation structure at 32 sampling sites throughout the Southern Appalachians. Eight of these sampling sites fall within Shenandoah National Park. We intend to employ a broad variety of sampling procedures in order to estimate the relative abundance of arthropods available to birds on foliage (at shrub and mid-canopy levels), in the litter, on tree trunks, and in the air. In addition, these methods will be compared with rapid assessment census techniques to examine the feasibility of establishing broad-scale, non-invasive arthropod monitoring schemes along pre-existing Breeding Bird Survey routes across North America. This research will help shed light on the relative importance of resource availability and habitat complexity for structuring bird communities in Southern Appalachian forests.

Findings and status of Scientific Study or accomplishments of Science Education Activity during the reporting year (maximum 4000 characters):

During 2010 at our study sites within Shenandoah National Park, 45 point counts were conducted for avian species and vegetation data was collected. Arthropod data collected includes approximately 160 branch clip samples, 20 Malaise trap samples, 100 pitfall samples, 100 frass samples, 100 sticky trap samples, 100 cardboard tree trunk trap samples, 10 aerial car net samples, 16 Berlese samples, 80 visual leaf surveys, 80 visual litter surveys, and 100 visual bark surveys. Preliminary analysis of visual leaf survey data indicates that of all arthropods detected during surveys (n=246), approximately 22% belong to the order Homoptera, 20% to Araneae, 15% to Hymenoptera, 11% to Lepidoptera, 11% to Diptera, 11% to Coleoptera, and 10% to various other orders. Further analysis of visual leaf surveys and other data is ongoing.

For Scientific Studies (not Science Education Activities), were any specimens collected and removed from the park but not destroyed during analysis?

No

Funding specifically used in this park this reporting year that was provided by NPS (enter dollar amount):

\$0

Funding specifically used in this park this reporting year that was provided by all other sources (enter dollar amount):

\$2500

List any other U.S. Government Agencies supporting this study or activity and the funding each provided this reporting year:

Paperwork Reduction Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. Public reporting for this collection of information is estimated to average 1.625 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the forms. Direct comments regarding this burden estimate or any aspect of this form to Dr. John G. Dennis, Natural Resources (3127 MIB), National Park Service, 1849 C Street, N.W., Washington, DC 20240.